ABSTRACT OF THE DISCLOSURE

To provide a sample retainer for X-ray fluorescence analysis, which is used in pretreating a liquid sample and then in X-ray fluorescence analysis of contents of such liquid sample, can sufficiently improve the limit of detection by suppressing the background and, also, allowing the fluorescent X-rays of a high intensity to be emitted uniformly, the sample retainer 5 comprises a ring-shaped pedestal 2; a hydrophobic film 3 of a thickness smaller than 10 µm and having a peripheral portion 3a held by the pedestal and also having a transmitting portion 3b for passage of X-rays therethrough; and a sheet-like liquid absorbent element 4 applied to the transmitting portion 3b of the hydrophobic film 3 and having a thickness within the range of 1 to 100 µm; wherein a liquid sample 1 is adapted to be dispensed dropwise onto and dried on the liquid absorbent element 4b with contents of the liquid sample 1 consequently retained thereon.